CLAIMS

1. A display (8), comprising:

a display panel (9);

a polariser (10);

a polarisation rotator (13) that is selectively operable to change the polarisation of light transmitted therethrough; and

a polarisation dependent scatterer (12) configured to scatter light having a first polarisation relative to light having a second polarisation;

the polarisation rotator (13) being operable so that:

in a first display mode, light scattered by the scatterer (12) is used to present a two-dimensional image (51); and

in a second display mode, relatively unscattered light is used to present a three-dimensional image (50).

2. A display according to claim 1, wherein said light used to present a two-dimensional or three-dimensional image (51, 50) provides illumination for the display panel (9).

3. A display according to claim 1, wherein said light used to present a two-dimensional or three-dimensional image (51, 50) conveys image information to one or more viewing zones.

4. A display (8) according to claim 1, wherein:

in the first display mode, light entering the polarisation rotator (13), having a first input polarisation, has the second polarisation when leaving the polarisation rotator (13), while light entering the polarisation rotator (13), having a second input polarisation, has the first polarisation when leaving the polarisation rotator (13); and

in the second display mode, light entering the polarisation rotator (13), having a first input polarisation, has the first polarisation when leaving the polarisation rotator (13), while light entering the polarisation rotator (13),

having a second input polarisation, has the second polarisation when leaving the polarisation rotator (13).

5. A display (8) according to claim 4, wherein:

the polarisation rotator (13) is configured so that the first input polarisation is substantially the same as the first polarisation and the second input polarisation is substantially the same as the second polarisation.

6. A display (8) according to claim 4 or 5, wherein:

said polarisation rotator (13) is operable so that light entering a first area of the polarisation rotator (13) and having the first and second input polarisations, leave the polarisation rotator (13) with the first and second polarisations respectively, while light entering a second area of the polarisation rotator (13) and having the first and second input polarisations leave the polarisation rotator (13) with the second and first polarisations respectively.

7. A display (8) according to any one of the preceding claims, comprising:

an illumination system (14) arranged to generate a plurality of light lines comprising components having the first polarisation and components having the second polarisation.

8. A display (8) according to claim 7, comprising:

a lenticular screen (11) for imaging the light lines, arranged so that images of the light lines are created at a position between the lenticular screen (11) and the display panel (9).

9. A display (8) according to claim 7, wherein:

said polariser (10) is located between said illumination system (14) and a lenticular screen (11), the lenticular screen (11) being arranged to create an image of the light lines by focussing the components having the first polarisation, at a position between the lenticular screen (11) and the display panel (9).

10. A display according to any one of claims 1 to 9, wherein:
said display panel (9) is a light-emissive display.

11. A display according to any one of the preceding claims, wherein the display panel (9) is a liquid crystal device in which a rear polariser is not provided.

12. A display according to any one of any one of claims 1 to 11, wherein the display panel (9) is a liquid crystal device in which a top polariser is not provided.

13. A display according to any one of claims 1 to 10, wherein the display panel (9) is a liquid crystal device and said polariser is a rear polariser (33) of the liquid crystal device.

14. A display (8) according to any one of the preceding claims, wherein said scatterer (12) comprises a foil (16) in which a plurality of elongate particles (16a) is suspended.

15. A display (8) according to any one of claims 1 to 14, wherein said scatterer (12) comprises a foil (17) embossed with a grating pattern.

16. A display (8) according to claim 14 or 15, wherein said foil (16, 17) is a stretched foil of poly ethylene terephtalate or poly ethylene naphtalate.

17. A display according to any one of the preceding claims, comprising:
a second scatterer (38), configured to scatter light having the second polarisation relative to light having the first polarisation.

18. Use of a display according to any one of claims 1 to 17 for displaying a two-dimensional image (51) and a three-dimensional image (50).

19. Use of a display according to claim 6, wherein said two-dimensional image (51) and said three-dimensional image (50) are displayed simultaneously.

20. A communication device (46) comprising a display (8) according to any one of claims 1 to 17.

21. A communication device (46) according to claim 20, in the form of a mobile telephone.

22. A computing device (52) comprising a display (8) according to any one of claims 1 to 17.

23. A computing device according to claim 22, in the form of a laptop computer.

24. A computing device (52) according to claim 22, in the form of a personal digital assistant.

25. Audio/visual equipment (53) comprising a display (8) according to any one of claims 1 to 17.

26. Audio/visual equipment (53) according to claim 25, in the form of a monitor arranged to present images generated by a computer (54).

27. Use of a communication device (46) according to claim 20, a computing device (52) according to claim 22 or audio/visual equipment (53) according to claim 25 for displaying a two-dimensional image (51) and a three-dimensional image (50).

28. Use of a communication device (46) according to claim 20 when appended to claim 6, a computing device (52) according to claim 22 when appended to claim 6 or a display device (53) according to claim 25 when appended to claim 6, wherein said two-dimensional image (51) and said three-dimensional image (50) are displayed simultaneously.